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TITLE: Mission Connect Mild TBI Translational Research Consortium

PRINCIPAL INVESTIGATOR: Brent E. Masel, M.D.

CONTRACTING ORGANIZATION: Transitional Learning Center at Galveston
Galveston, Texas 77550

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14. ABSTRACT The purpose of this project is to identify the incidence of post traumatic hypopituitarism (PTH) in mild TBI and develop criteria for assessing which patients with a mild TBI are at risk for developing PTH. This study will also correlate the characteristics of the individuals with PTH by neuropsychological, neurophysiological and imaging testing as they relate to functional outcome. At 6 months post injury, patients will be screened for anterior pituitary function. 67 subjects have been recruited as of July 31, 2011; 26 have reached the 6 month point, where data collection (i.e. blood samples) for this project occurs. Data analysis of the results from blood samples drawn at that point has not yet begun.					
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Table of Contents

	<u>Page</u>
Introduction.....	1
Body.....	2
Key Research Accomplishments.....	3
Reportable Outcomes.....	4
Conclusion.....	5
References.....	6
Appendices.....	7

Introduction: The purpose of this project will be to study the diagnosis of post traumatic hypopituitarism after MTBI. We will determine the incidence of hypopituitarism following MTBI and develop criteria for assessing which MTBI patients are at high risk for developing posttraumatic hypopituitarism and should have routine post-injury screening. We will also determine the relationship between post-traumatic hypopituitarism and functional outcome, cognitive recovery, and resolution of PCS at six months after MTBI. At 6 months post-injury, patients will be screened for anterior pituitary function by measuring IGF1, total testosterone in males, 17 beta estradiols in females, prolactin, TSH, and morning cortisols. The incidence of single and multiple pituitary hormone deficiencies will be determined. The clinical characteristics, MRI imaging results, EEG and MEG results of the patients who have pituitary deficiency will be compared to those of patients with normal pituitary function. The relationship between pituitary dysfunction and functional outcome, cognitive recovery, and resolution of PCS will be examined.

Body of report

SA #2.3: To study diagnosis of post-traumatic hypopituitarism after MTBI

SA #2.3.1: To determine the incidence of hypopituitarism following MTBI.

SA #2.3.2: To develop criteria for assessing which MTBI patients are at high risk for developing posttraumatic hypopituitarism and should have routine post-injury screening.

Relative to SA #2.3.1 and 2.3.2:

67 subjects have been recruited as of July 31, 2011; 26 have reached the 6 month point, where data collection (i.e. blood samples) for this project occurs. Data analysis of the results from blood samples drawn at that point has not yet begun. I have been an active participant in the Clinical Working Group as well as at the Partnering PI Quarterly meetings, and was invited to attend the 27th Army Science Conference in Orlando, November, 2010.

Key research accomplishments:

67 subjects have been recruited as of July 31, 2011; 26 have reached the 6 month point, where data collection (i.e. blood samples) for this project occurs. Data analysis of the results from blood samples drawn at that point has not yet begun.

I have been an active participant in the Clinical Working Group as well as at the Partnering PI Quarterly meetings, and was invited to attend the 27th Army Science Conference in Orlando, November, 2010.

Dr. Masel and Dr. Urban have published two papers on the topic of post traumatic hypopituitarism in the past year:

Effect of Growth Hormone Replacement Therapy on Cognition after Traumatic Brain Injury, Journal of Neurotrauma 27:1565-1585 (September 2010)

Serum IGF-1 concentrations in a sample of patients with traumatic brain injury as a diagnostic marker of growth hormone secretory response to glucagon stimulation testing, Clinical Endocrinology (2011) 74, 365–369

The former was accepted as a poster presentation at the 27th Army Science Conference.

Reportable outcomes:

67 subjects have been recruited as of July 31, 2011; 26 have reached the 6 month point, where data collection (i.e. blood samples) for this project occurs. Data analysis of the results from blood samples drawn at that point has not yet begun

Conclusion:

As of July 31, 2011, 67 subjects have been recruited as of July 31, 2011, and 26 have reached the 6 month point, where data collection (i.e. blood samples) for this project occurs. Data analysis of the results from blood samples drawn at that point has not yet begun.

References:

None

Appendices:

None

Supporting Data:

None